WHAT IS CLAIMED IS

1. An optical recording method of recording information to a phase change optical recording medium utilizing change in optical constant caused by reversible phase change between a crystalline phase and an amorphous phase by controlling power to be applied to the recording medium with three values of peak power, erase power and bias power in a recordable range between a minimum linear velocity and a maximum linear velocity, with alternate application of the peak power and bias power in a pulse manner and with changing the pulse application interval continuously from an inner circumferential part through an outer circumferential part of the recording medium with an interval proportional to a window width Tw and a fixed interval, comprising the step of:

a) starting a top peak power application interval with a delay from a data input pulse signal starting time for a target mark length nTw, where n denotes an integer in a range between 3 and 14, with changing the delay in proportion to the window width Tw

with changing the proportionality factor discretely for each linear velocity.

2. The optical recording method as claimed in claim 1, wherein:

as the recording linear velocity is increased, with respect to those at the minimum linear velocity, a top peak power application starting time and a tail bias power application ending time are changed in proportion to the window width Tw with changing the proportionality factor with respect to each linear velocity discretely.

3. An optical recording method of recording information to a phase change optical recording medium utilizing change in optical constant caused by reversible phase change between a crystalline phase and an amorphous phase by controlling power to be applied to the recording medium with three values of peak power, erase power and bias power in a recordable range between

a minimum linear velocity and a maximum linear velocity, with alternate application of the peak power and bias power in a pulse manner and with changing the pulse application interval continuously from an inner circumferential part through an outer circumferential part of the recording medium with an interval proportional to a window width Tw and a fixed interval, comprising the step of:

a) changing a top peak power application starting time and a tail bias power application ending time in proportion to the window width Tw, with controlling any one thereof with an interval proportional to the window width Tw determined by a fixed factor with respect to the window width Tw independent of the linear velocity, with respect to those at the minimum linear velocity, upon increase in the recording linear velocity.

4. The optical recording method as claimed in claim 1, comprising the step of:

b) changing the tail bias power application ending time in a range between 0 and the window width Tw

upon decrease in the linear velocity in case where recording is made in a range between the maximum linear velocity and the minimum linear velocity.

5. The optical recording method as claimed in claim 2, comprising the step of:

b) changing the tail bias power application ending time in a range between 0 and the window width Tw upon decrease in the linear velocity in case where recording is made in a range between the maximum linear velocity and the minimum linear velocity.

6. The optical recording method as claimed in claim 3, comprising the step of:

b) changing the tail bias power application ending time in a range between 0 and the window width Tw upon decrease in the linear velocity in case where recording is made in a range between the maximum linear velocity and the minimum linear velocity.

7. The optical recording method as claimed in claim 4, wherein:

the phase change optical recording medium applied is characterized in that, by continuously applying the erase power which corresponds to more than 20 % of the maximum peak power used for recording, the reflectance decreases from that in a not-yet-recorded state at the maximum linear velocity, while the reflectance does not decreases at the minimum linear velocity.

8. The optical recording method as claimed in claim 5, wherein:

the phase change optical recording medium applied is characterized in that, by continuously applying the erase power which corresponds to more than 20 % of the maximum peak power used for recording, the reflectance decreases from that in a not-yet-recorded state at the maximum linear velocity, while the reflectance does not decreases at the minimum linear velocity.

9. The optical recording method as claimed in claim 6, wherein:

the phase change optical recording medium applied is characterized in that, by continuously applying the erase power which corresponds to more than 20 % of the maximum peak power used for recording, the reflectance decreases from that in a not-yet-recorded state at the maximum linear velocity, while the reflectance does not decreases at the minimum linear velocity.

10. The optical recording method as claimed in claim 1, wherein:

the minimum linear velocity is not less than 1.0 times of a reference linear velocity, while the maximum linear velocity is four times of the reference linear velocity.

11. The optical recording method as claimed

in claim 2, wherein:

the minimum linear velocity is not less than 1.0 times of a reference linear velocity, while the maximum linear velocity is four times of the reference linear velocity.

12. The optical recording method as claimed in claim 3, wherein:

the minimum linear velocity is not less than 1.0 times of a reference linear velocity, while the maximum linear velocity is four times of the reference linear velocity.

13. The optical recording method as claimed in claim 1, wherein:

the linear velocity for a case where CAV recording is performed within a data zone to be recorded is determined in a manner in which:

for a case where the linear velocity at the

outermost radial position is 4 time speed, the linear velocity at an intermediate radial position is 2.83 time speed, and the linear velocity at the innermost radial position is 1.65 time speed; and

for case where the linear velocity at the outermost radial position is 2.4 time speed, the linear velocity at the intermediate radial position is 1.7 time speed, and the linear velocity at the innermost radial position is 1 time speed.

14. The optical recording method as claimed in claim 2, wherein:

the linear velocity for a case where CAV recording is performed within a data zone to be recorded is determined in a manner in which:

for a case where the linear velocity at the outermost radial position is 4 time speed, the linear velocity at an intermediate radial position is 2.83 time speed, and the linear velocity at the innermost radial position is 1.65 time speed; and

for case where the linear velocity at the outermost radial position is 2.4 time speed, the linear

velocity at the intermediate radial position is 1.7 time speed, and the linear velocity at the innermost radial position is 1 time speed.

15. The optical recording method as claimed in claim 3, wherein:

the linear velocity for a case where CAV recording is performed within a data zone to be recorded is determined in a manner in which:

for a case where the linear velocity at the outermost radial position is 4 time speed, the linear velocity at an intermediate radial position is 2.83 time speed, and the linear velocity at the innermost radial position is 1.65 time speed; and

for case where the linear velocity at the outermost radial position is 2.4 time speed, the linear velocity at the intermediate radial position is 1.7 time speed, and the linear velocity at the innermost radial position is 1 time speed.

16. The optical recording method as claimed in claim 13, wherein:

the linear velocity changes continuously from the innermost radial position through the outermost radial position while the window width is changed along therewith substantially in inverse proportion thereto.

17. The optical recording method as claimed in claim 14, wherein:

the linear velocity changes continuously from the innermost radial position through the outermost radial position while the window width is changed along therewith substantially in inverse proportion thereto.

18. The optical recording method as claimed in claim 15, wherein:

the linear velocity changes continuously from the innermost radial position through the outermost radial position while the window width is changed along

therewith substantially in inverse proportion thereto.